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The African Light Source

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The world faces many challenges, articulated in the UN Sustainable Development Goals. African faces these challenges too and has in addition its own versions of them, as well as others. Consider also that we also need not only applied research to address these challenges, but also curiosity driven fundamental research. This advances knowledge and has longer timescales. It prepares humanity to address problems in new ways, and to address problems that have not yet manifested to the same extent as the previous ones. Having identified then the research issues, we can ask what science will contribute, and from there, what instrumentation. The single most significant instrument that emerges, is the modern light source, which is then surely a most transformative mega-research. Research is both fundamental and applied. Both streams lead to innovation, competitive industry, the solution of problems of particular relevance for Africa, high end human capacity development, building the culture of learning, the inspiration of young learners to greater efforts and building a new generation of competent and enabled youth. There are other aspects, such as science diplomacy, pan Africanism, the globalisation and democratisation of participation in new knowledge generation, the implication that the large scale research infrastructure is fed by a healthy regional and national capacity in terms of human and equipment infrastructure. The passionate belief in this positive role for mega-science in society has driven the momentum towards the African Light Source. A combination of African and International leadership towards an African Light Source is embodied in the project for a Light Source in Africa. These COVID times have seen the Light Source designated as an essential service, remaining open during lockdown, as the front-runner in the fight against this greatest scourge of our decade. Indeed, we would like to see Africa extend its already significant contribution, to combating this disease, and especially others of particular relevance to Africa, as well as those of the next Pandemics. This contribution details the progress on the Roadmap towards the African Light Source, and outlines especially the current and future projects.

Abstract Category

Presenter: CONNELL, Simon (University of Johannesburg, South Africa)

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